

REMARKS

The Applicants thank the Examiner for the consideration given the present application. Claims 6 and 11 were previously cancelled without prejudice to or disclaimer of the subject matter thereof. Claims 1, 2, 4, 5, 7-10, and 12-23 are pending. Claims 1, 8, and 17 are independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Examiner Interview

The Applicants appreciate the courtesies extended to the Applicants' Representative, Carl T. Thomsen, Registration No. 50,786 by Examiner Aaron Dunwoody during the face-to-face interview conducted on November 08, 2011, and for preparing an Interview Summary.

By way of this Amendment, the Applicants have amended the claims to clarify the present invention. If, during further examination of the present application, a discussion with the Applicants' Representative would advance the prosecution of the present application, the Examiner is encouraged to contact Carl T. Thomsen, Registration No. 50,786, at 1-703-208-4030 (direct line) at his convenience.

Objection to the Claims

In response to the Examiner's objection to the claims, the Applicants have amended claims 1, 8, 12-15, 17, 20, 22, and 23 in order to enclose each of the reference numerals with parentheses. Accordingly, the reconsideration and withdrawal of the objection are respectfully requested.

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Rejection Under 35 U.S.C. § 112, second paragraph

Claims 1, 2, 4, 5, 7-10 and 12-23 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed.

The Examiner has set forth certain instances wherein the claim language is not clearly understood.

In order to overcome this rejection, the Applicants have amended claims 1, 8, 17 to include add the metric (mm) to each of the values included in the claims, thereby correcting the deficiencies specifically pointed out by the Examiner. The Applicants respectfully submit that the claims, as amended, particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections Under 35 U.S.C. § 103(a)

Claims 1, 2, 4, 5, 7-10 and 12-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yokoyama et al. in view of Kodama et al., Morain (U.S. 4,772,052), and Tsurumi (U.S. 2002/0158465).

These rejections are respectfully traversed.

Amendments to Independent Claims 1, 8, and 17

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, each of **independent claims 1, 8, and 17**

have been amended herein to recite a combination of elements directed to a resin tube-equipped quick connector, including *inter alia*:

“wherein the press-fit undergoing portion of the resin tube into which the press-fitting portion is press-fitted has an internal diameter (d3) substantially equal to 3.5 mm, and a portion of the resin tube into which the press-fitting portion is not press-fitted has an internal diameter (d1) substantially equal to 2.5 mm,

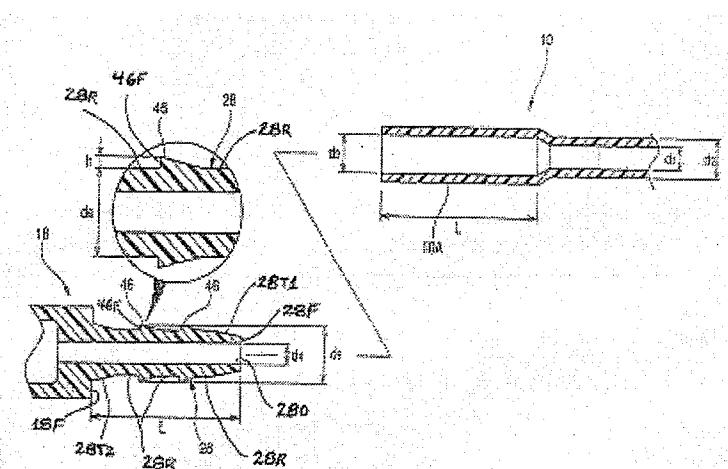
wherein a ratio of the axial length (L) of the press-fitting portion to an inner diameter (d4) of the press-fitting portion is substantially equal 7.25 to 1.0.”

Paragraphs [0031] to [0038] of the Published Application describe the problems associated with conventional resin tubes having large inner diameters.

Paragraph [0039] of the Published Application recites:

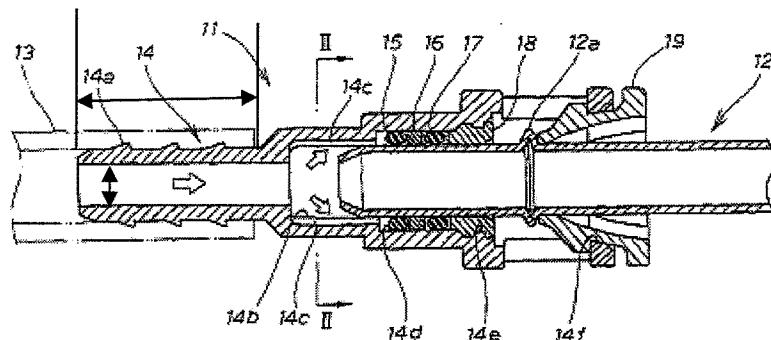
“This invention has been made in view of the background of the above circumstances, and it's object is to provide a resin tube-equipped quick connector capable of connecting even such a small-diameter resin tube as described above....”

Support for “wherein a ratio of the axial length (L) of the press-fitting portion to an inner diameter (d4) of the press-fitting portion is substantially equal 7.25 to 1.0,” as set forth in **independent claims 1, 8, and 17** as amended, can be found, for example, in paragraphs [0095] to [0099] and in **FIGS. 2-4** of the Published Application. (FIG. 4 is shown below.)



Regarding the Yokoyama et al. Reference

As can be seen in Yokoyama et al. FIG. 1 below,



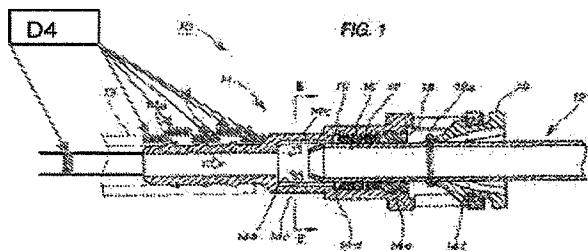
this document merely discloses a hose 13 with an inner diameter which appears to be constant, and ratio of an axial length of the hose fitting portion 14a to an inner diameter of the hose fitting portion 14a which is not substantially equal to 7.25 to 1.0.

In numerous instances in the Office Action (including on page 16, a portion of which is included below which is illustrated below) the Examiner alleges that the **Yokohama et al.** reference discloses “wherein the press-fit undergoing portion of the resin tube into which the press-fitting portion is press-fitted has an internal diameter (d3) substantially equal to 3.5

mm, and a portion of the resin tube into which the press-fitting portion is not press-fitted has an internal diameter (d1) substantially equal to 2.5 mm,

wherein a ratio of the axial length (L) of the press-fitting portion to the inner diameter (d4) of the press-fitting portion is substantially equal to 7.25 to 1.0.”

Further, in Figure 1 below, Yokohama et al clearly illustrate a ratio of an axial length L of the press-fitting portion to an inner diameter d4 of the press-fitting portion is substantially equal 7.25 to 1.0



The Applicants respectfully disagree with the Examiner's assertion at least for the following reasons.

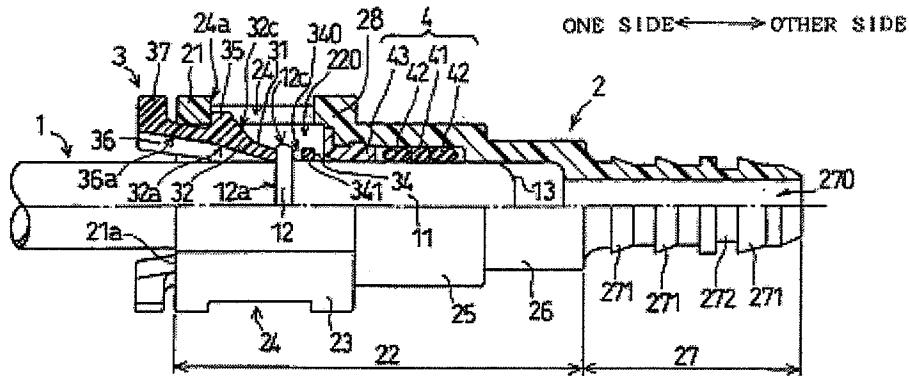
First of all, the Examiner will note the **Yokohama et al.** reference provides no disclosure whatsoever about the dimensions of the inner diameter of the length of socket housing 14 onto which hose 13 is fitted.

1. The illustration of socket housing 14 in FIG. 1 of **Yokohama et al.** is presumably drawn to scale, and if so, the ratio of the axial length of the socket housing 14 to the inner diameter of the socket housing appears to be no greater than 4.0 to 1.0.
2. Nowhere in the **Yokohama et al.** document is there any disclosure of the dimensions of any of the components of the quick connector.

3. Nowhere in the **Yokohama et al.** document is there any recognition of the problem facing the inventors regarding conventional connectors having larger diameters.

Regarding the Kodama et al. Reference

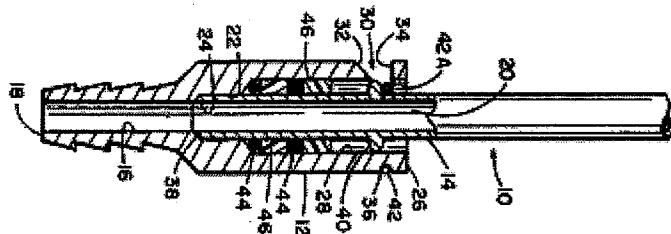
Nowhere in **Kodama et al.** is there any disclosure of the dimensions of any of the components of the quick connector. Further, as can be seen in **Kodama et al.** FIG. 1 below,



this document fails to disclose a hose (resin tube), and merely discloses a ratio of an axial length of the section 27 to an inner diameter of the bore 270 of section 27 which is **not** substantially equal to 7.25 to 1.0.

Regarding the Morain Reference

Nowhere in **Morain** is there any disclosure of the dimensions of any of the components of the quick connector. Further, as can be seen in **Morain** FIG. 3 below,



this document discloses merely a hose 10 with a large inner diameter, and a ratio of an axial length of the hose fitting portion of housing 20 to an inner diameter of the hose fitting portion of housing 20 which is **not** substantially equal to 7.25 to 1.0.

Regarding References cited in Previous Office Actions

Washizu '216, Nishiyama et al. '225, Ostrander et al. '383, and Bock '998 were cited by the Examiner in previous Office Actions.

However, no combination of **Washizu '216, Nishiyama et al. '225, Ostrander et al. '383, and Bock '998** can make up for the deficiencies of **Yokoyama et al., Kodama et al., Morain, and Tsumuri** to teach or suggest the combination of elements now set forth in each of **independent claims 1, 8, and 17.**

As the Examiner knows well, a *prima facie* case of obviousness must be established in order for a rejection under 35 U.S.C. 103(a) to be proper.

M.P.E.P. section 2143 sets forth examples of basic requirements of a *prima facie* case of obviousness:

"The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395-97 (2007) identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in *Graham*. The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit."

One of the exemplary rationales that may support a conclusion of obviousness in accordance with the KSR decision is set forth in M.P.E.P. 2143 (C). This exemplary rational

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relates to “use of known technique to improve similar devices (methods, or products) in the same way.”

Referring to M.P.E.P. 21433 (C), the following is stated:

“To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the prior art contained a “base” device (method, or product) upon which the claimed invention can be seen as an “improvement;”
- (2) a finding that the prior art contained a “comparable” device (method, or product that is not the same as the base device) that has been improved in the same way as the claimed invention;
- (3) a finding that one of ordinary skill in the art could have applied the known “improvement” technique in the same way to the “base” device (method, or product) and the results would have been predictable to one of ordinary skill in the art; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that a method of enhancing a particular class of devices (methods, or products) has been made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in other situations. One of ordinary skill in the art would have been capable of applying this known method of enhancement to a “base” device (method, or product) in the prior art and the results would have been predictable to one of ordinary skill in the art. The Supreme Court in *KSR* noted that if the actual application of the technique would have been beyond the skill of one of ordinary skill in the art, then using the technique would not have been obvious. *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.” (*emphasis added*)

Regarding **item (1)** above, the Examiner appears to consider **Yokoyama et al.** as representing the prior art containing a “base” device upon which the claimed invention can be seen as an “improvement.”

Regarding **item (2)** above, the Examiner appears to consider the combination of **Kodama et al.**, **Morain**, and **Tsurumi** as representing the prior art containing a “comparable” device that has been improved in the same way as the claimed invention.

However as discussed above, the combination of the cited references:

- Fails to recognize the problems with conventional devices as described in paragraph [0039] which led the Applicants to conceive of and reduce to practice the present application,
- Fails to teach, suggest, or make obvious “wherein the press-fit undergoing portion of the resin tube into which the press-fitting portion is press-fitted has an internal diameter (d3) substantially equal to 3.5 mm, and a portion of the resin tube into which the press-fitting portion is not press-fitted has an internal diameter (d1) substantially equal to 2.5 mm, wherein a ratio of the axial length (L) of the press-fitting portion to an inner diameter (d4) of the press-fitting portion is substantially equal 7.25 to 1.0,” as set forth in **independent claims 1, 8, and 17**.
- The Examiner’s analysis supporting the rejection under 35 U.S.C. 103 has not been made explicit. No dimensions are disclosed in any of the cited references.

The Applicants respectfully submits that the Examiner has failed to articulate at least **items (1) and (2)** above as is required.

In view of the above, the Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness.

At least for the reasons explained above, Applicants respectfully submit that the combination of elements as set forth in each of **independent claims 1, 8, and 17** is not disclosed or made obvious by the prior art of record, including **Yokoyama et al., Kodama et al., Morain, Tsurumi, Washizu '216, Nishiyama et al. '225, Ostrander et al. '383, and Bock '998**.

Therefore, **independent claims 1, 8, and 17** are in condition for allowance.

Dependent Claims

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, or due to the additional novel features set forth therein.

For example, **dependent claims 14, 15, and 20** recite:

“wherein the axial length (L) of the press-fitting portion is about 14.5 mm, and the inner diameter (d4) of the press-fitting portion is about 2.0 mm, and thus the ratio of the axial length (L) of the press-fitting portion to the inner diameter (d4) of the press-fitting portion is about equal to 7.25 to 1.0.”

As argued above,

1. Nowhere in any combination of the cited references is there any disclosure of the dimensions of any of the components of the quick connector.

2. Nowhere in any combination of the cited references is there any recognition of the problem facing the inventors regarding components of conventional connectors having inner larger diameters.
3. The Examiner's analysis supporting the rejection under 35 U.S.C. 103 has not been made explicit.

Thus, the Applicants respectfully submit that the Examiner's rejection of **dependent claims 14, 15, and 20** is not proper and should be withdrawn.

Dependent claims 14, 15 and 20 should now be in condition for allowance

All pending claims are now in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) are respectfully requested.

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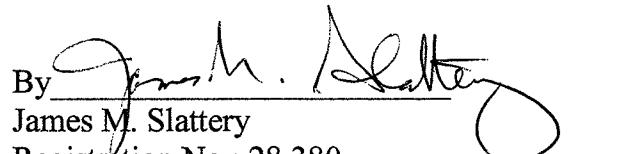
CONCLUSION

It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 208-4030 (direct line). If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

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Respectfully submitted,

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